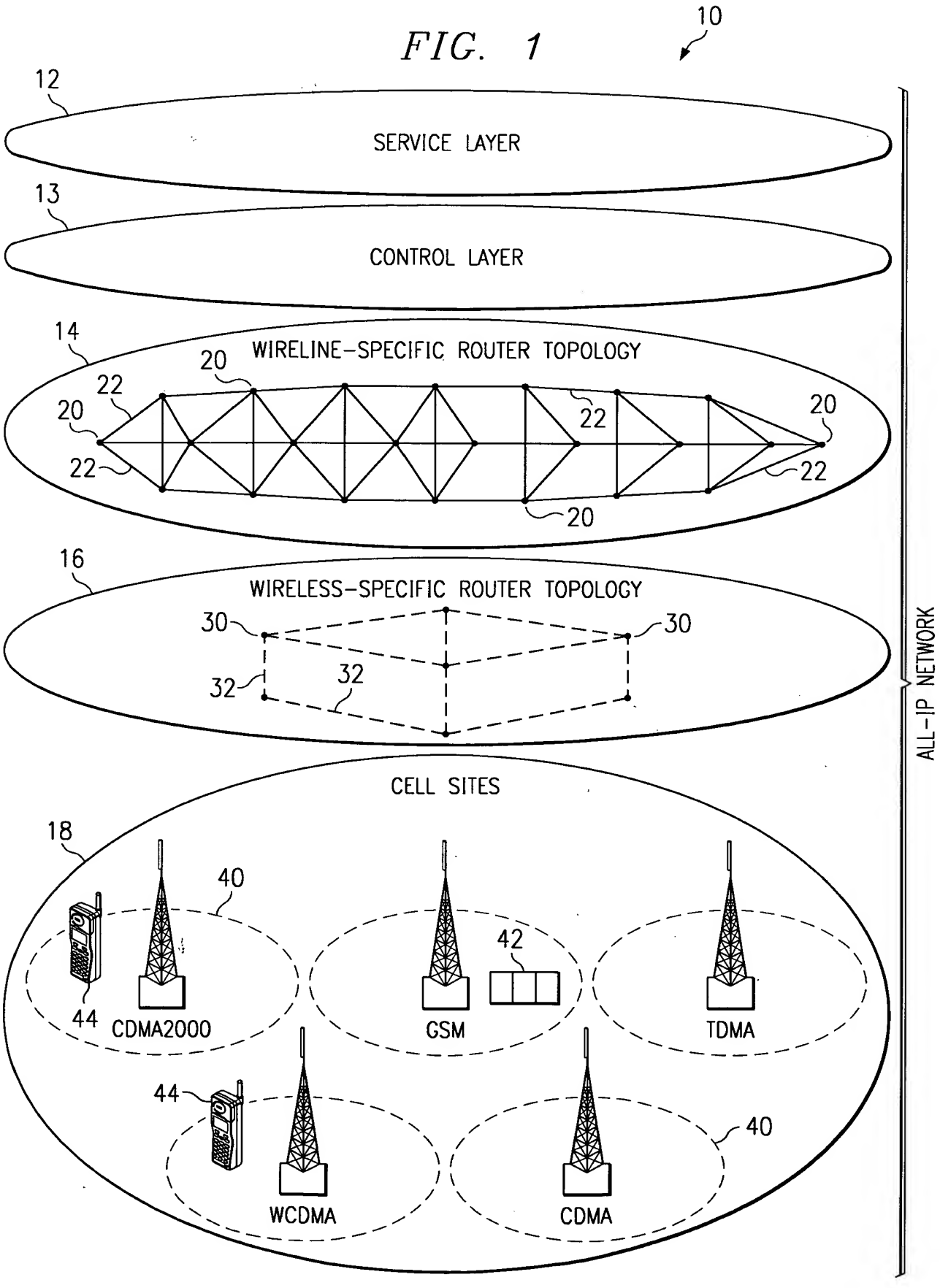
APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 1



Docket No. 062891.0482

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APPROVED

FIG. 2

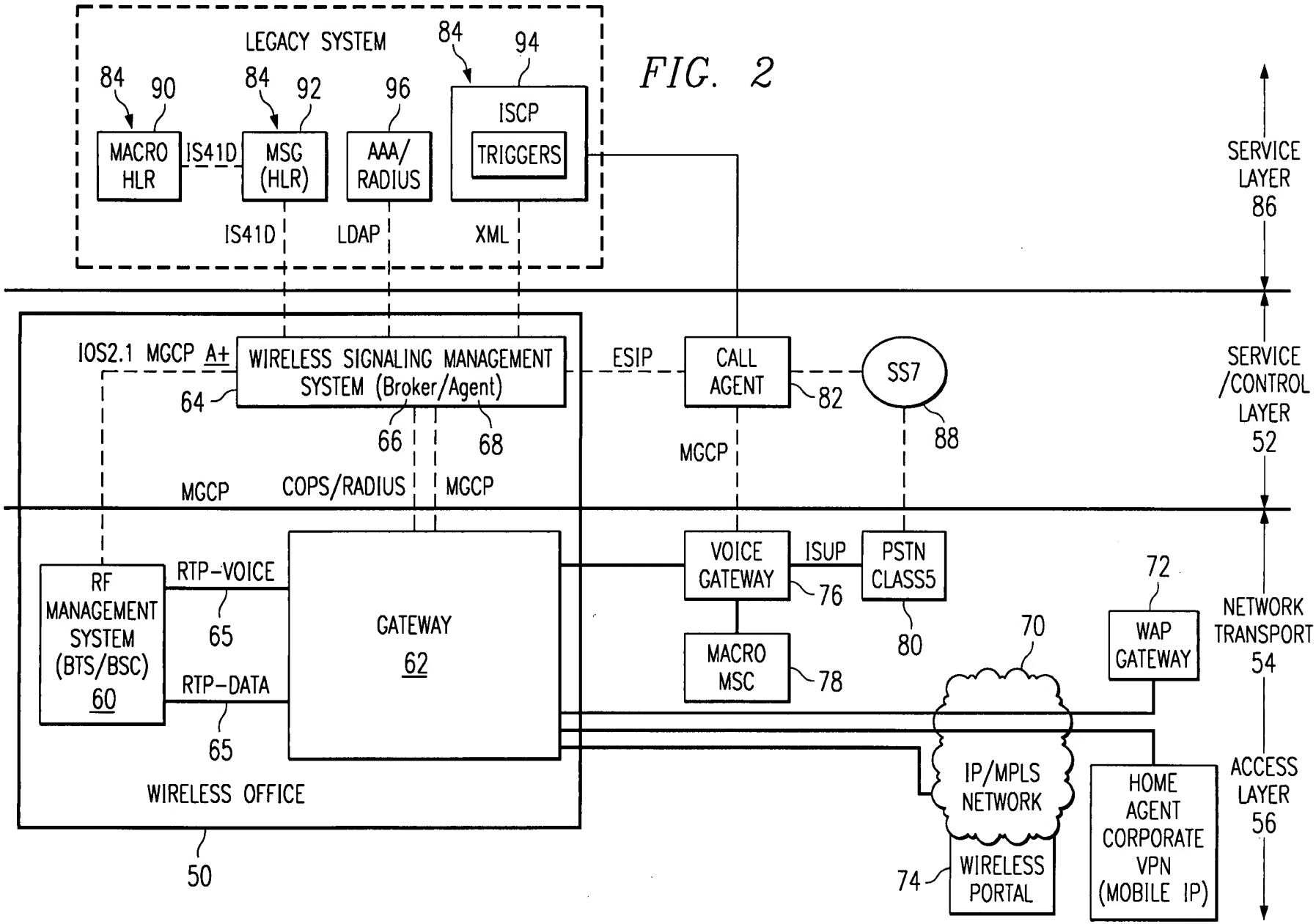

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FIG. 3A

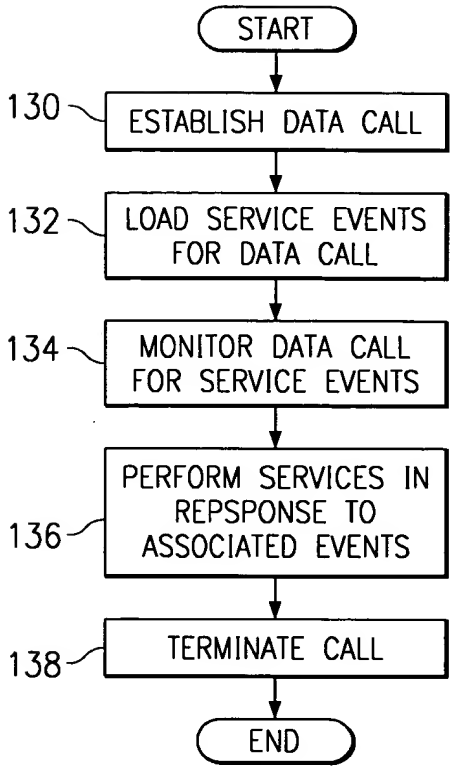

FIG. 5A

XML: DATA ORG		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Call Type	M	Data Call
Calling Party Number	M	
Called Party Number	O	
Transaction Capability	M	List of triggers supported by AA at current time

APPROVED
O.G. FIG.
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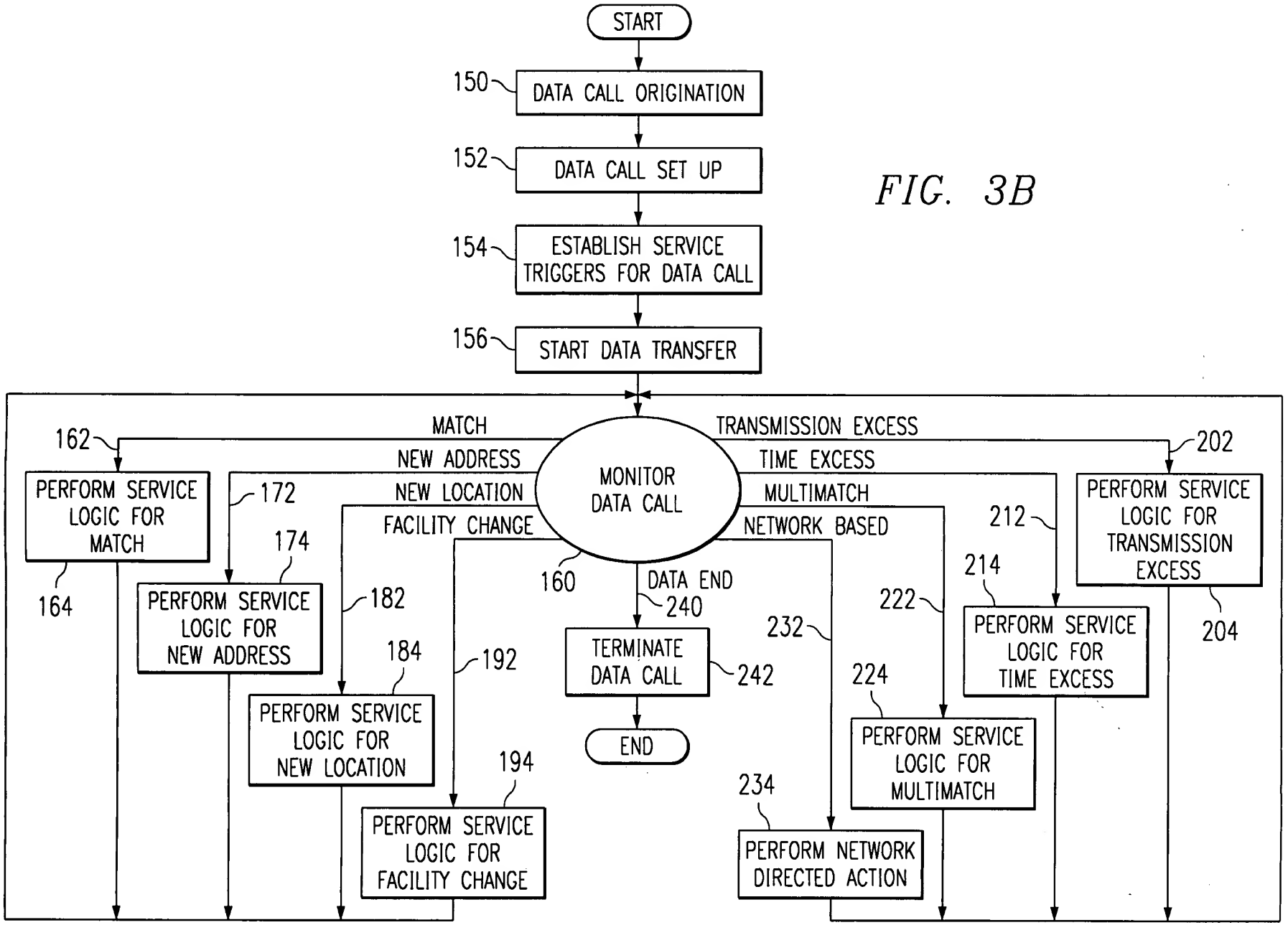

FIG. 3B

APPROVED O.G. FIG.
BY CLASS SUBCLASS
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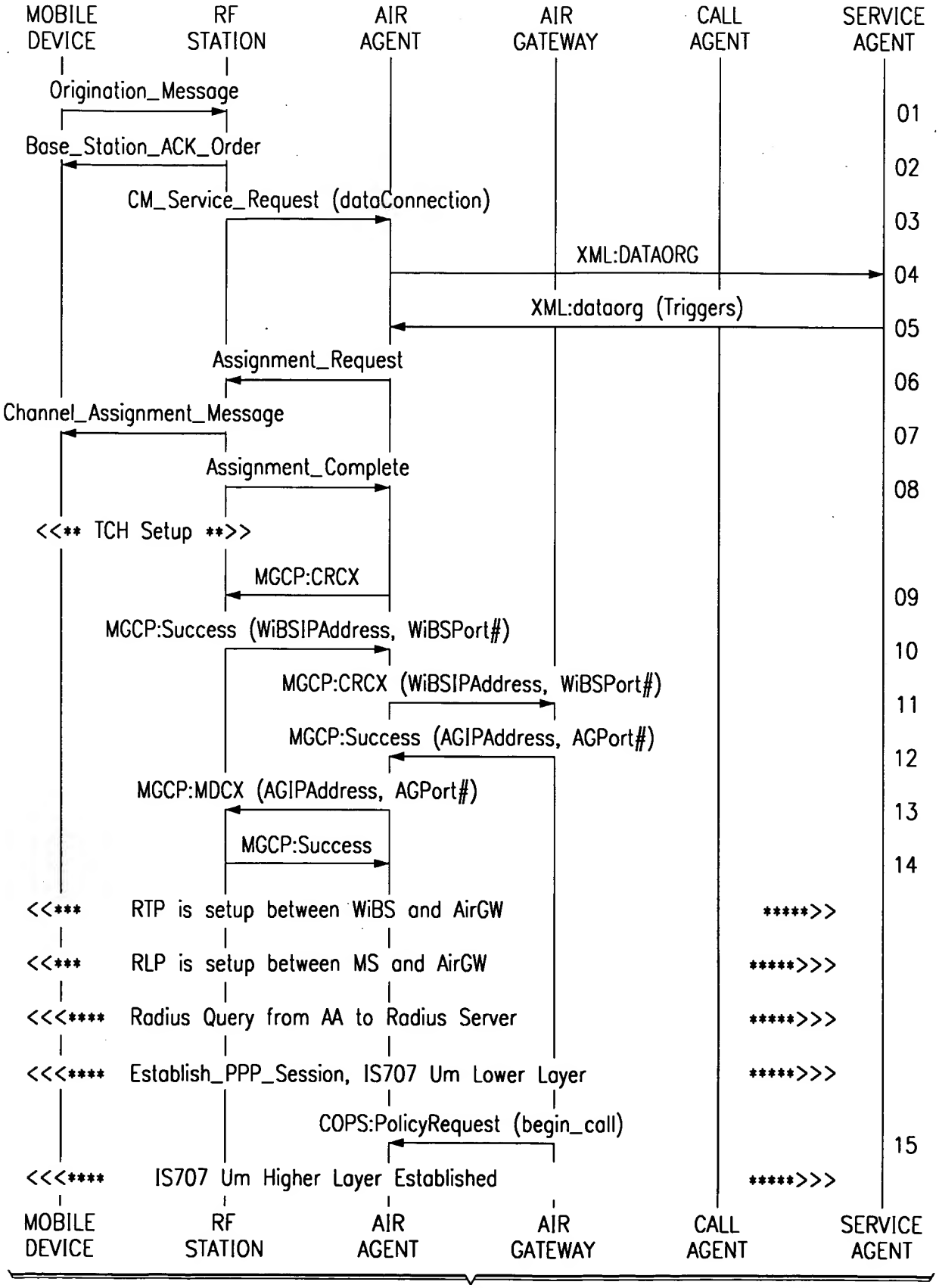
FIG. 4A



TO FIG. 4B

APPROVED O.G. FIG.
BY CLASS SUBCLASS
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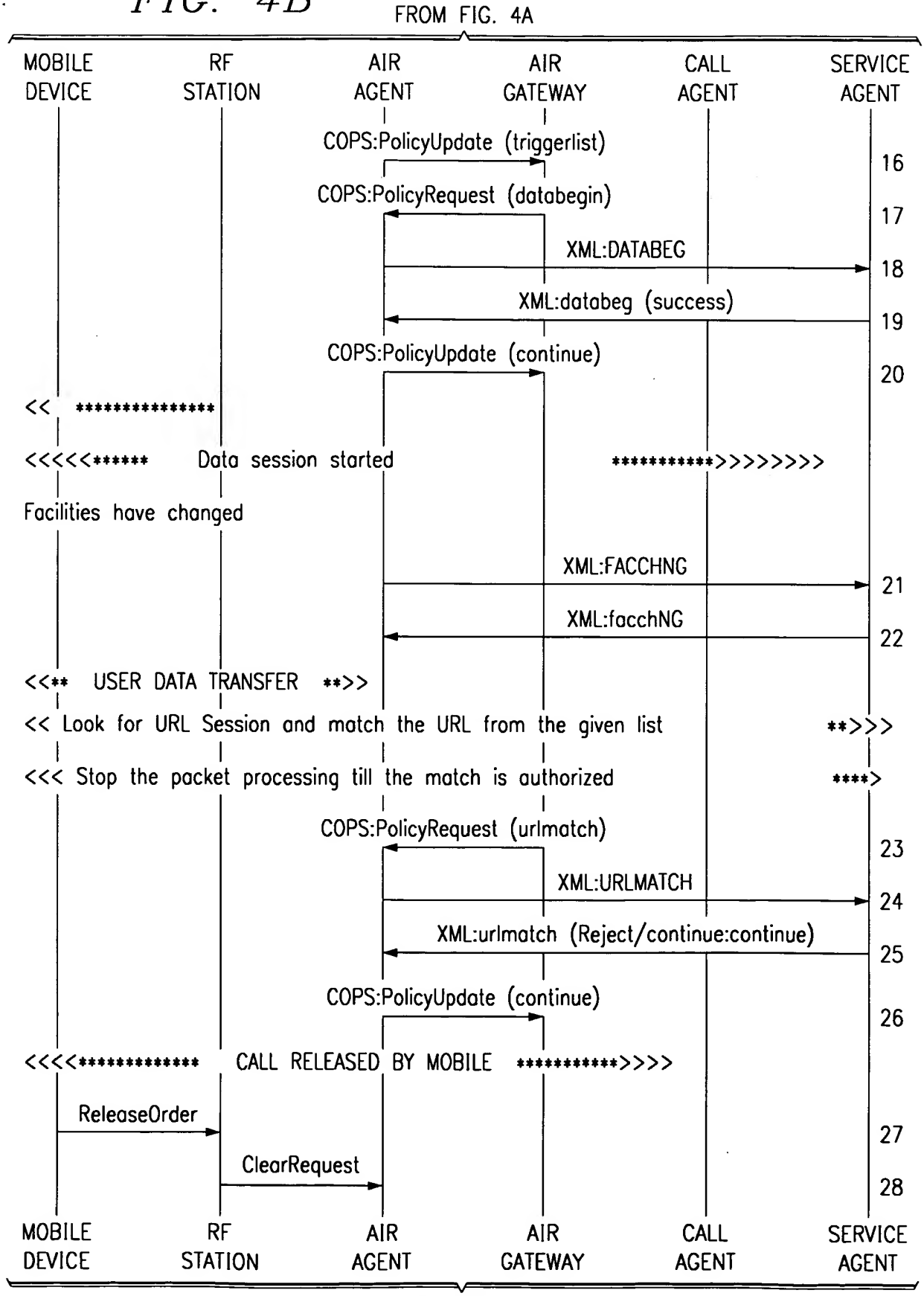
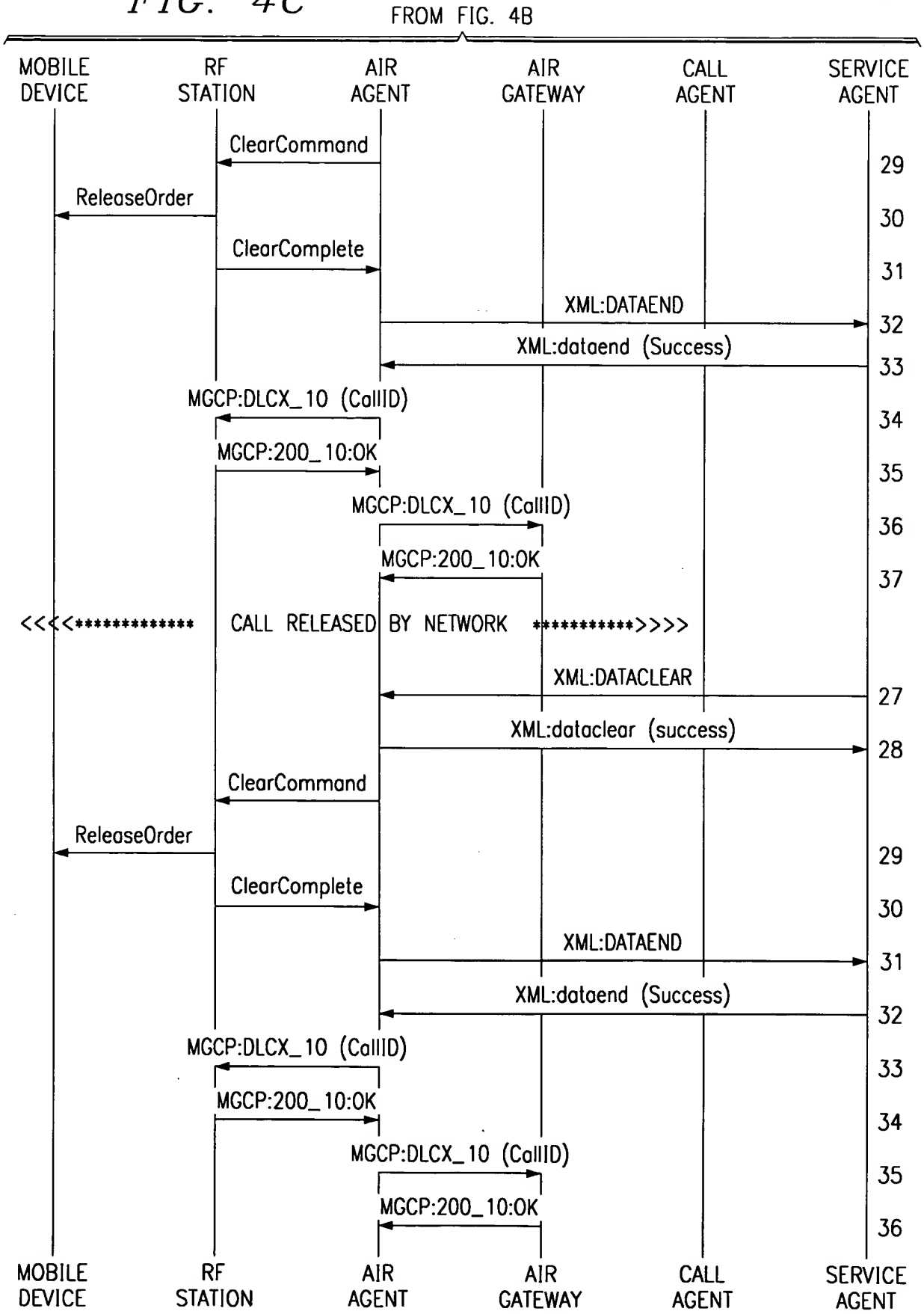
FIG. 4B



APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 4C



APPROVED O.G. FIG.
BY CLASS SUBCLASS
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FIG. 5B

XML: data org		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
Call Type	M	
Action Response	M	If denied, reason is included
Triggers	O	

FIG. 6A

XML: DATA BEGIN		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Call Type	M	
Mobile' IP address	O	
Username	O	username@realm.com
Data Session Initiation Time Stamp	M	

FIG. 6B

XML: data begin		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	
Air AgentID	M	
MIN/IMSI	M	
Call Type	M	
Action Response	M	Why data session is rejected

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 7A

XML: DATA END		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Call Type	M	
Session ID	M	
Session Termination Time Stamp	M	
Release Reason	O	
Session Records		Number of packets received, number of packets discarded, number of errors, number of voice call attempts

FIG. 7B

XML: data end		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 Byte length field
Air AgentID	M	
MIN/IMSI	M	
Session ID	M	

APPROVED O.G. FIG. CLASS SUBCLASS BY DRAFTSMAN

FIG. 8A

XML: DATA CLEAR		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Call Type	M	
Session ID	M	
Release Reason	O	

FIG. 8B

XML: data clear		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Session ID	M	

FIG. 9A

XML: FWD BY TEXD		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Call Type	M	
Byte Count	M	Number of bytes that can be transmitted

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 9B

XML: fwd by texd		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Session ID	M	
Triggers	O	

FIG. 10A

XML: REV BY TEXD		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Call Type	M	
Byte Count	M	Number of bytes that can be transmitted

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DIRECTOR

FIG. 10B

XML: rev by texd		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Session ID	M	
Triggers	O	

FIG. 11A

XML: TIMEEXD		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Call Type	M	
Duration	M	Duration represented by "YearsMonthsDaysHoursMinutesSeconds"

FIG. 11B

XML: timeexd		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Session ID	M	
Triggers	O	

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 12A

XML: URLMATCH		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
Call Type	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
URL Match Time Stamp	O	
Current URL Detected	M	

FIG. 12B

XML: urlmatch		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Session ID	M	
Triggers	O	

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 13A

XML: LOCCHNG		
FIELD	TYPE	COMMENTS
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc. This is the current location.
Type of Change	O	Handoff/sector/administrative boundary
Session ID	M	
Location Change Time Stamp	O	
Previous Location Information	O	

FIG. 13B

XML: locchng		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Session ID	M	
Trigger Action	O	

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 14A

XML: MULTIMATCH		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Time Stamp	O	Year, month, day, hours, minutes and seconds
Triggers	O	
Trigger Information	O	Trigger information is collected for each trigger and concatenated. Eg., matched URL, matched IP and others. Each trigger component will have trigger information.

FIG. 14B

XML: multimatch		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Action Response	O	

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 15A

XML: URLCHNG		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
URL-Change Time Stamp	O	
Last URL Accessed by User	M	
Current URL	M	

FIG. 15B

XML: urlchng		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Triggers	O	

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 16A

XML: DATALERT		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Alert Information	M	An XML file sent from ISCP to Air Agent

FIG. 16B

XML: datalert		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Action	O	Successfully delivered or an error code denoting that mobile is not accessable.

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FIG. 17A

XML: FACLCHNG		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air Agent ID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Reason for Change	O	Handoff/failure/congestion/change in bandwidth
Details of Changed Facilities	O	Link bandwidth, change of QoS, degree of congestion

FIG. 17B

XML: faclchng		
FIELD	TYPE	COMMENTS
Message Identifier	M	
Transaction Identifier	M	Associates a given request and reply
Length	M	2 byte length field
Air AgentID	M	
MIN/IMSI	M	
Location Information	M	This is combination of switch number, Cell ID, Marketing ID, etc.
Session ID	M	
Data Session ID	M	
Trigger Action	O	

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

FIG. 18A

MESSAGE IDENTIFIER			
MESSAGE	IDENTIFIER	MANDATORY RESPONSE	COMMENTS
DATAORG	1	M	
DATABEGIN	2	O	
DATAEND	3	O	
DATACLEAR	4	O	
URLMATCH	5	O	
URLCHNG	6	O	
FACLCHNG	7	O	
FWDBYTEXD	8	O	
REVBYTEXD	9	O	
TIMEEXD	10	O	
MULTIMATCH	11	O	
LOCCHNG	12	O	
DATALERT	13	O	

FIG. 18B

DATA TRANSACTION CAPABILITY
Identifier
Length
LOCCHNG DATACLEAR FACLCHNG URLCHNG URLMATCH DATAEND DATABEGIN DATAORG
FWDBYTEXD REVBYTEXD TIMEEXD MULTIMATCH DATALERT

FIG. 18C

ACTION RESPONSE
Identifier
Length
Additional reasons for data triggers 01 Success 02 Access Denied Reason

APPROVED O.G. FIG.
BY
EXAMINER

FIG. 18D

CALL TYPE
Identifier
Length
Type of Call 00 Data

FIG. 18E

TRIGGERS		
FIELD	TYPE	COMMENTS
Trigger Identifier	M	See the identifier table
Update	M	1: Update Previous Triggers, 2: Overwrite Existing Triggers
FireType	M	1: One Time 2: Always (when the conditions match)
Form	M	1: DNF 2: CNF
TRIGGER COMPONENTS1	M	
TRIGGER COMPONENTS2	M	
TRIGGER COMPONENTS'N	M	

FIG. 18F

TRIGGER ACTION
Identifier
Length
1) Allow access 2) Deny access 3) Allow access and inform 4) Deny access and inform 5) Service logic IP address 6) Service logic port type 7) Service logic port number 8) Service logic application protocol number

APPROVED O.G. FIG.
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FIG. 18G

TRIGGER COMPONENT: IP ADDRESS		
FIELD	TYPE	COMMENTS
Trigger Component Header	M	
Type	M	0: Source 1: Destination
Value Type	M	1: Single Value, 2: Range, 3: Multi Value, 4: Not Applicable If it is a range then Value1 is min and Value2 is max
Value1	M	Value of IP Address
Value2	M	Value of IP Address
Value3	M	Value of IP Address
Value'N	M	Value of IP Address

FIG. 18H

TRIGGER COMPONENT: URL		
FIELD	TYPE	COMMENTS
Trigger Component Header	M	
Value1	M	http://www.yahoo.com
Value2	M	http:www-nrc.nokia.com/mail-archive/ext-ip-location/threads.html
Value3	M	http://search.ietf.org/internet-drafts/draft-kankkunen-vompls-fw-00.txt
Value'N	M	http://dailynews.yahoo.com/headlines/business/

FIG. 18I

TRIGGER COMPONENT: HEADER		
FIELD	TYPE	COMMENTS
Type	M	Component type
Negate	M	1: Negate this condition 0: Don't negate
GroupNo	M	Group Number of the Condition (group the trigger component types)

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FIG. 18J

TRIGGER COMPONENT: TYPE
1) Origination Request
2) Start of a Session
3) End of a Session
4) IPv4Condition
5) Port Condition
6) URL Match Condition
7) URL Change Condition
8) Forward Byte Count Condition
9) Reverse Byte Count Condition
10) Location Condition
11) Session Time Condition
12) Application Condition
13) Trigger Action

FIG. 18K

USERNAME
Identifier
Length
"username@realm.com (represented as ASCII string)
username@realm.com (represented as ASCII string)
username@realm.com (represented as ASCII string)
username@realm.com (represented as ASCII string)
"n characters"
username@realm.com (represented as ASCII string)"

FIG. 18L

MOBILE'S IP ADDRESS
Identifier
Length
IP Version 4 or 6 (4 bytes or 12 bytes)
IP Address

APPROVED BY DRAFTSMAN O.G. FIG. CLASS SUBCLASS

FIG. 18M

DATA SESSION INITIATION TIME STAMP
Identifier
Length
"YearMonthDayHoursMinutesSeconds"

FIG. 18N

DATA SESSION TERMINATION TIME STAMP
Identifier
Length
"YearMonthDayHoursMinutesSeconds"

FIG. 18O

URL MATCH TIME STAMP
Identifier
Length
"YearMonthDayHoursMinutesSeconds"

FIG. 18P

LAST URL ACCESSED BY USER
Identifier
Length
"http://www.ipmobile.com"

FIG. 18Q

CURRENT URL ACCESSED BY USER
Identifier
Length
"http://www.ipmobile.com"

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BY CLASS SUBCLASS
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FIG. 18R

RELEASE REASON
Identifier
Length
Reason 00 Facilities not Available at the Terminating End 01 Network Resources not Available 02 Network Resources Congestion 03 Route not Available 04 Incoming Voice Call

FIG. 18S

REASON FOR FACILITIES CHANGE
Identifier
Length
Reason 00 Handoff 01 Failure of Link 02 Buffer Congestion in AirGateway 03 Change in Bandwidth 04 Change in QoS

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FIG. 18T

CHANGED FACILITIES
Identifier
Length
Reason 1. Target AirGateway 2. Target AirAgent 3. Failed Link ID 4. New QoS 5. New Bandwidth 6. Degree of Congestion

FIG. 18U

SESSION RECORDS
Identifier
Length
Records for Session 1. Number of FWD Packets/Bytes Received 2. Number of FWD Packets/Bytes Received 3. Number of FWD Packets/Bytes Discarded 4. Number of REV Packets/Bytes Received 5. Number of REV Packets/Bytes Received 6. Number of REV Packets/Bytes Discarded 7. Time Duration of the Session 8. Number of CRC Errors